

10/527,873

P-2564

Claim Amendments
Including a complete listing of all claims

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1. (Canceled)

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. (Canceled)

10. (Currently Amended) A sensor system for detecting a position of an electronically detectable ball, the system comprising:

an electronically detectable ball having a passive location sensor weighing less than ten grams;

a transceiver configured to detect said electronically detectable ball when said electronically detectable ball passes outside of a predefined area of a game field, and

a support structure configured to support said transceiver at the predefined sideline area of the game field.

11. (Previously Presented) The system of claim 10 wherein said transceiver is configured to detect said electronically detectable ball with a spatial resolution that is equal to or less than a diameter of said electronically detectable ball.

12. (Currently Amended) The system of claim 10, further comprising an indicator means configured to indicate, when said electronically detectable ball is within a specified region of said predefined sideline area.

13. (Previously Presented) The system of claim 12, wherein said indicator means comprises a mobile display means configured to wirelessly communicate with said indicator means.

14. (Previously Presented) The system of claim 10 wherein the electronically detectable ball comprises:

a bladder;
an external covering enclosing said bladder; and
wherein the passive location sensor, is completely
integrated into said bladder.

15. (Previously Presented) A system for detecting a goal
comprising:

an inflatable ball having a bladder and outer covering;
a passive sensor located inside the bladder of said
inflatable ball, said passive sensor weighing less than ten
grams;

a transceiver positioned adjacent a goal so as to detect
said passive sensor when said inflatable ball has completely
crossed a goal line;

an electronic device worn by a referee capable of receiving
a signal from said transceiver, whereby a goal is confirmed by
the referee; and

an electronic cabin housing an official and additionally
receiving the signal from said transceiver, whereby a decision of
the referee may be checked.

16. (Previously Presented) A system for detecting a goal as
in claim 15 wherein:

said transceiver is positioned at least 30 cm inside the goal line, whereby interference from a goalkeeper or other players is prevented.

17. (New) A goal detection system for accurately detecting a goal in a football or soccer game comprising:

an inflatable ball having a bladder and outer covering;

a passive sensor located inside the bladder of said inflatable ball, said passive sensor weighing less than ten grams;

a transceiver positioned at least 30 centimeters behind a goal line so as to detect said passive sensor when said inflatable ball has completely crossed the goal line, whereby detection of the passive sensor is improved and interference from a goalkeeper or players is reduced; and

a receiver, worn by a game official and capable of providing a vibrating signal to the game official when said passive sensor is detected by said transceiver,

whereby the occurrence of a goal is capable of being confirmed.

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The Examiner withdrew the drawings. The Examiner also withdrew the objection to the specification.

The Examiner rejected claim 9 as failing to comply with the enablement requirement. Claim 9 has been canceled.

The Examiner rejected claims 1 and 9 under 35 USC §103(a) as being unpatentable over Shishido in view of Crawford. Claims 1 and 9 have been canceled.

The Examiner rejected claims 10-16 under 35 USC §103(a) as being unpatentable over Marinelli in view of Crawford.

Marinelli discloses a device for measuring a ball with an object unit imbedded in the ball. Measurements such as distance, time of flight, speed, trajectory, height, spin rate, or curve are obtained.

Crawford discloses an electronic goal detector that accurately detects and signals when a hockey puck passes through the goal line and includes deactivation means.

The Examiner has indicated that Marinelli does not disclose an electronically detectable ball passing outside of a predefined area of a game field, but however, has indicated that Crawford discloses an electronically detectable ball passing outside of a predefined area of a game field. The Examiner has apparently equated beyond the goal line to be outside a predetermined area of a game field.

Claim 10 has been amended to more specifically define the predefined area of a game field as a predefined **sideline** area of a game field. Accordingly, claim 10 is directed toward an embodiment for detecting when the ball passes outside of a predefined sideline area of a game field or goes out of the boundaries of the playing area. This feature is not disclosed in any of the references cited by the Examiner. Support for this amendment may be found in the specification on page 5, lines 21-23, and page 6, lines 1-3, wherein it states in combination with other features "Another possible solution is to place an underground parallel line beside the sidelines, at a distance equal to the circumference of a football."

Claim 15 additionally recited an electronic device worn by a referee capable of receiving a signal from said transceiver whereby a goal is confirmed by the referee and an electronic cabin housing an official, in addition to receiving the signal from said transceiver whereby the decision of the referee may be checked. These recited features in claim 15 are not disclosed in any of the references cited by the Examiner. Both Marinelli and Crawford do not disclose the concept of being able to check a decision of a referee by another game official as recited in claim 15.

New Claim 17 has been added and more specifically recites a transceiver positioned at least 30 cm behind the goal line so as

to detect said passive sensor when said inflatable ball has completely crossed the goal line, whereby detection of the passive sensor is improved and interference from a goal keeper or player is reduced. Support for new claim 17 can be found in the specification on page 2, lines 4-6; page 5, lines 8-10; and page 8, line 19. By placing a transceiver behind the goal line, the present invention more accurately detects a goal by preventing any interference from a goal keeper or players and reduces the possibility of a goal being detected without a ball completely crossing the goal line. Thereby, the present invention improves upon the prior art and the ability to accurately detect a goal. Crawford does not recognize the problem of interference from a goal keeper or players and places a first sensing means 21 on the goal post 2 and a second sensing means 25 on the goal line 5. Crawford, col. 4, lines 33-49. There is no disclosure whatsoever in Crawford to suggest that positioning a transceiver at least 30 cm behind a goal line would be beneficial. Marinelli primarily relates to detecting motion characteristics of a movable object and has little, if anything, to do with the location of the object in relation to a playing field. Crawford relates to an electronic goal detector for accurately detecting when a hockey puck passes through a goal line. Therefore, there seems to be little motivation or benefit for combining the teachings of Marinelli with the teachings of Crawford, as advocated by the